Drinking Water Surveillance Program

ST. CATHARINES (DECEW) WATER SUPPLY SYSTEM

Annual Report 1989

Ontario
Environment
Environnement

ISSN 0840-528X

ST. CATHARINES (DECEW) WATER SUPPLY SYSTEM

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1989

Cette publication technique n'est disponible qu'en anglais

February 1991

PIBS 1361

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

ST. CATHARINES (DECEW) WATER SUPPLY SYSTEM
1989 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

The St. Catharines (DeCew) Water Supply System has a conventional treatment plant which treats water from Lake Erie via the Welland Canal. The process consists of coagulation, flocculation, sedimentation, filtration and disinfection. This plant has a design capacity of 191 x 1000 m^3/day and serves a population of approximately 148,300.

Water samples from the raw, treated and two distribution system sites were taken on a monthly basis. The St. Catharines (DeCew) Water Supply System was sampled for the presence of approximately 180 parameters. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organic (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polyaromatic Hydrocarbons, Specific Pesticides and Volatiles). Samples were analyzed for Chlorophenols and Specific Pesticides in June and November only.

A summary of results is shown in Table A.

Inorganic and Physical parameters were below any applicable health related Ontario Drinking Water Objectives (ODWOs).

Samples were analyzed monthly for the presence of approximately 110 Organics. Levels did not exceed any known health related guidelines.

During 1989, the DWSP sampling results indicated that the St. Catharines (DeCew) Water Supply System produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS)

SUMMARY TABLE BY SCAN

	SCAN	RAW TESTS	RAW POSITIVE	RAW %POSITIVE	TREATED TESTS	TREATED POSITIVE	TREATED %POSITIVE	SITE 1 TESTS	SITE 1 POSITIVE	SITE 1 %POSITIVE	SITE 2 TESTS	SITE 2 POSITIVE	SITE 2 %POSITIVE
	BACTERIOLOGICAL	36	30	83	36	9	25	30	5	16	33	12	36
	CHEMISTRY (FLD)	33	33	100	69	69	100	105	102	97	126	106	84
	CHEMISTRY (LAB)	252	224	88	249	179	71	390	318	81	443	363	81
	METALS	288	179	62	288	157	54	494	284	57	564	328	58
	CHLOROAROMATICS	168	0	0	139	0	0	154	0	0	154	0	0
	CHLOROPHENOLS	12	0	0	12	0	0	.	.	.	.	.	.
	PAH	191	0	0	191	0	0	.	.	.	.	.	.
	PESTICIDES & PCB	408	0	0	366	0	0	322	1	0	322	1	0
	PHENOLICS	12	8	66	12	10	83	.	.	.	.	.	.
	SPECIFIC PESTICIDES	65	0	0	63	0	0	11	0	0	11	0	0
	VOLATILES	348	0	0	348	48	13	232	33	14	348	48	13
TOTAL		1813	474		1773	472		1738	743		2001	858	

NO KNOWN HEALTH RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

ST. CATHARINES (DECEW) WATER SUPPLY SYSTEM 1989 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

The DWSP was initiated at the St. Catharines (DeCew) Water Supply System in the spring of 1987. Annual Reports were published for 1987 and 1988 (ISSN 0840-5182).

This report contains information and results for 1989.

In order to accommodate the increasing number of plants on the DWSP and to facilitate the timely completion of the 1989 annual reports, plants with two or more years of published data will receive an abbreviated annual report. This report maintains the same general format as in previous years but does not include a comprehensive discussion of results. For more detail on the parameters analyzed and discussion of results, consult the 1987 and 1988 reports.

PLANT DESCRIPTION

The St. Catharines (DeCew) Water Supply System has a conventional treatment plant which treats water from Lake Erie via the Welland Canal. This process consists of coagulation, flocculation, sedimentation, filtration and disinfection. This plant has a design capacity of 191.0 1000 m^3/day and sample day flows ranging from 85.9 x 1000 m^3/day to 169.5 x 1000 m^3/day. It serves a population of approximately 148,300.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

Sampling and analysis

Plant operating personnel perform analyses on parameters for process control (Table 1).

Water at the St. Catharines Water Treatment plant was sampled for the presence of approximately 180 parameters monthly in 1989. Samples were analyzed for Specific Pesticides and Chlorophenols in June and November only. Only the raw and treated water at the plant was analyzed for Polyaromatic Hydrocarbons and Phenolics.

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

ST CATHARINES WATER TREATMENT PLANT

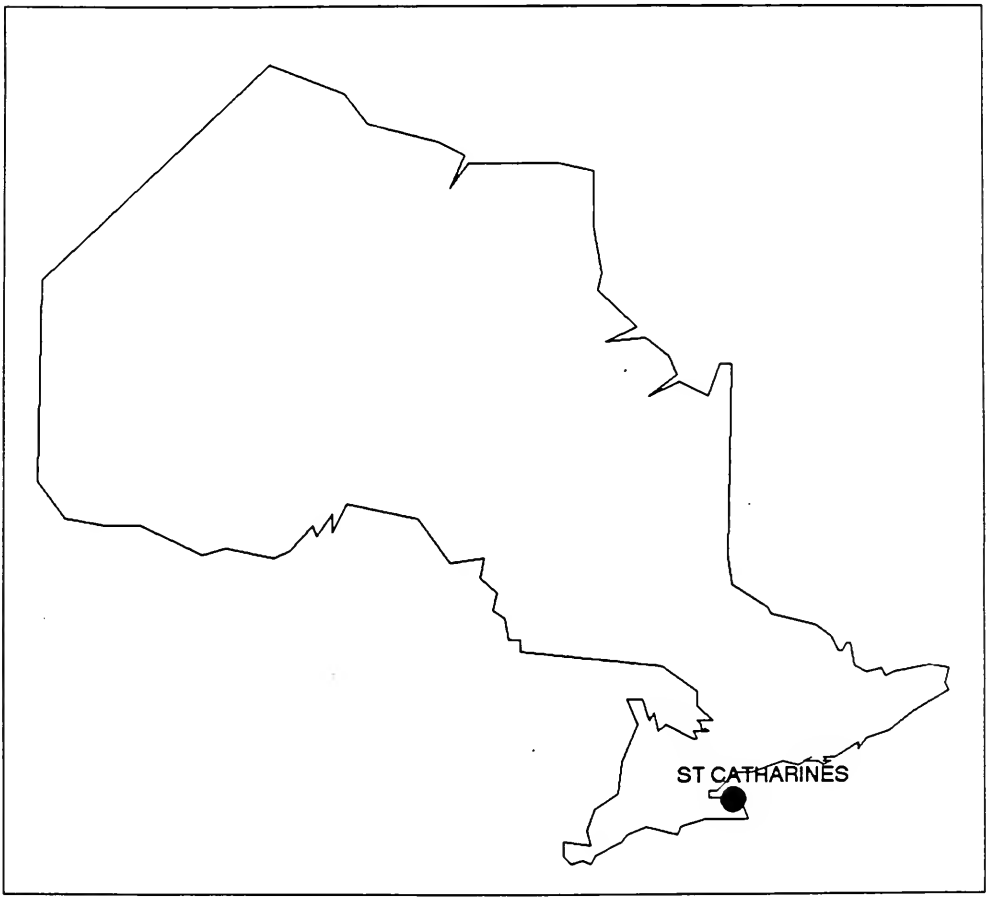
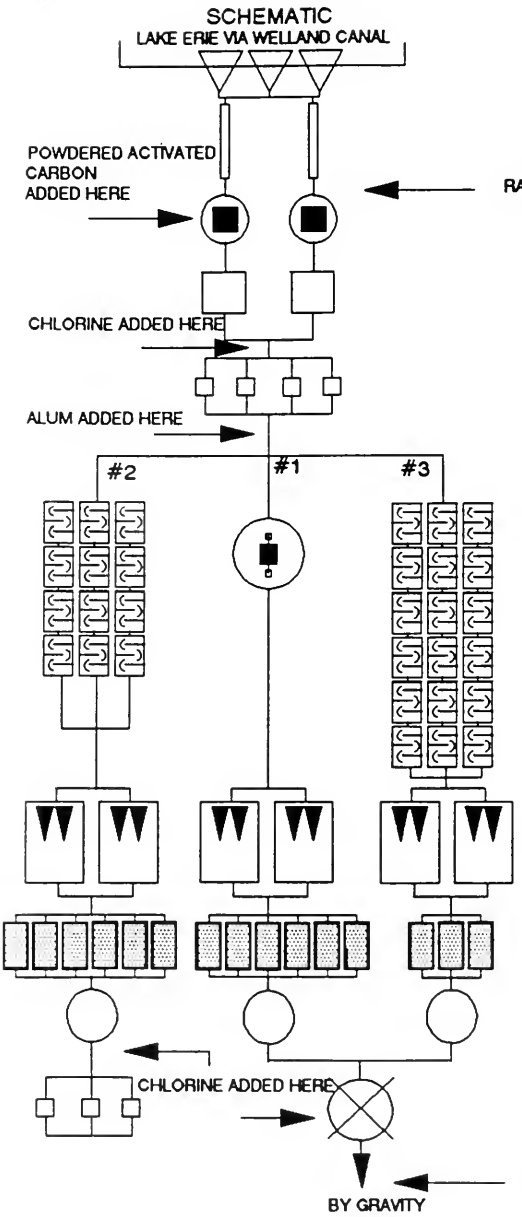


FIGURE 2

ST. CATHARINES WTP



CHARACTERISTICS

3 SETTLING PONDS

2 INTAKE PIPES

RAW WATER SAMPLE SITE

2 SCREEN & SURGE WELLS

2 LOWLIFT CHAMBERS

4 LOWLIFT PUMPS

#1: 1 FLOCCULATION TANK
#2: 12 FLOCCULATION TANKS
#3: 18 FLOCCULATION TANKS

#1: 2 SEDIMENTATION TANKS
#2: 2 SEDIMENTATION TANKS
#3: 2 SEDIMENTATION TANKS

#1: 6 FILTERS
#2: 6 FILTERS
#3: 3 FILTERS

3 CLEARWELLS

#1: 3 HIGHLIFT PUMPS
#2 AND #3: RESERVOIR

TREATED WATER SAMPLE SITE

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

IN-PLANT MONITORING DECEW WTP 1989

PARAMETER	LOCATION	FREQUENCY
Chlorine residual (free)	Settled water	4 hours
	Treated discharge	4 hours
Chlorine residual (combined)	Settled water	4 hours
	Treated discharge	4 hours
Chlorine residual (total)	Settled water	4 hours
	Treated discharge	4 hours
Temperature	Raw screen well	daily
Turbidity	Raw screen well	4 hours
	Treated discharge	4 hours

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

ST. CATHARINES (DECEW) WATER SUPPLY SYSTEM

LOCATION:	R.R. 1 FONTHILL, ONTARIO L0S 1E0 (416-684-5353)
SOURCE:	RAW WATER SOURCE - LAKE ERIE VIA WELLAND CANAL
RATED CAPACITY:	191 (1000 M^3/DAY)
OPERATION:	MUNICIPAL
PLANT SUPERINTENDENT:	A. FORBES
MINISTRY REGION:	WEST CENTRAL
DISTRICT OFFICER:	MR. J. MAYES

MUNICIPALITY SERVED	POPULATION
ST. CATHARINES	120,883
THOROLD	13,993
NIAGARA ON THE LAKE	10,029
VINELAND	3,375

As of August 1989, the analysis of Triazine pesticides was dropped from the distribution sample. Laboratory analysis was conducted at the Ministry of the Environment facilities in Rexdale, Ontario.

RESULTS

Field Chemistry measurements were recorded on the day of sampling and were entered on the DWSP database as submitted by plant personnel.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters in the DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters. These are currently under review. When an ODWO is not available, guidelines/limits from other agencies are consulted. The Parameter Listing System (PALIS), recently published (ISBN 0-7729-4461-X) by the MOE, catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Many of the compounds detected are naturally occurring or are treatment by-products.

IN THIS REPORT, DISCUSSION IS LIMITED TO THE TREATED AND DISTRIBUTED WATER AND ADDRESSES ONLY THOSE PARAMETERS WITH CONCENTRATIONS ABOVE GUIDELINE VALUES AND ORGANIC PARAMETERS WITH POSITIVE RESULTS.

Results indicate that no health related guidelines were exceeded.

Bacteriology

Standard Plate Count

Two treated and one distribution sample were above the ODWO aesthetic guideline of 500 counts/mL for standard plate count in May, June and August, indicating some deterioration in water quality.

Inorganic and Physical Parameters

Aluminum

Aluminum values exceeded the ODWO operational guideline of 100 µg/L twenty times in the treated and distributed samples to a maximum of 310 µg/L.

Organic Parameters

Atrazine

Atrazine was reported at positive levels in two distribution samples for June ranging to 760 ng/L. Health and Welfare Canada has an Interim Maximum Acceptable Concentration (IMAC) for Atrazine in drinking water of 60,000 ng/L.

Trihalomethanes

Trihalomethanes (THMs) are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs. All Total THM occurrences in the treated and distributed samples, ranging from 15.0 to 50.4 ug/L, were well below the ODWO of 350 ug/L.

CONCLUSIONS

Results listed in this report for 1989 are consistent with results reported for previous years.

The treated water was of good quality and this was maintained in the distribution system.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) SAMPLE DAY CONDITIONS FOR 1989

	SAMPLE DAY CONDITIONS		TREATMENT CHEMICAL DOSAGES (MG/L)			
			PRE-CHLORINATION	COAGULATION	POST-CHLORINATION	
DATE	DELAY* TIME(HRS)	FLOW (1000M3)	CHLORINE	ALUM LIQUID	CHLORINE	CHLORINE DIOXIDE
JAN 17	7.1	95.4	.90	8.38	.33	.
FEB 20	7.8	85.9	.90	7.89	.32	.
MAR 20	7.2	93.8	.80	4.26	.25	.
APR 18	10.1	100.3	.90	8.68	.35	.
MAY 14	8.2	102.5	.90	7.63	.30	.
JUN 20	7.5	113.0	1.00	8.47	.63	.
JUL 18	6.0	169.5	1.30	8.48	.45	.
AUG 22	6.5	156.4	1.30	8.13	.33	.
SEP 19	8.7	116.3	1.30	8.22	.35	.
OCT 17	6.5	.0	1.00	6.23	.30	.
NOV 21	10.0	100.9	.62	8.15	.35	.
DEC 19	7.5	96.1	.35	7.14	.	.20

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	RAW			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	12	9	0	.	.	.	.	.	.	.	.	.
	STANDRD PLATE CNT MF	.	.	.	12	6	0	10	2	0	11	6	0
	TOTAL COLIFORM MF	12	10	0	12	1	0	10	1	0	11	3	0
	T COLIFORM BCKGRD MF	12	11	0	12	2	0	10	2	0	11	3	0
*TOTAL SCAN BACTERIOLOGICAL		36	30	0	36	9	0	30	5	0	33	12	0
*TOTAL GROUP BACTERIOLOGICAL		36	30	0	36	9	0	30	5	0	33	12	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	.	.	.	12	12	0	12	9	0	18	13	0
	FLD CHLORINE FREE	.	.	.	12	12	0	19	19	0	17	7	0
	FLD CHLORINE (TOTAL)	.	.	.	11	11	0	19	19	0	19	14	0
	FLD PH	11	11	0	11	11	0	19	19	0	24	24	0
	FLD TEMPERATURE	11	11	0	11	11	0	19	19	0	24	24	0
	FLD TURBIDITY	11	11	0	12	12	0	17	17	0	24	24	0
*TOTAL SCAN CHEMISTRY (FLD)		33	33	0	69	69	0	105	102	0	126	106	0
CHEMISTRY (LAB)	ALKALINITY	12	12	0	12	12	0	21	21	0	24	24	0
	CALCIUM	12	12	0	12	12	0	21	21	0	24	24	0
	CYANIDE	12	0	0	12	0	0	11	0	0	12	0	0
	CHLORIDE	12	12	0	12	12	0	21	21	0	24	24	0
	COLOUR	12	8	4	11	1	10	21	4	17	24	1	23
	CONDUCTIVITY	12	12	0	12	12	0	21	21	0	24	24	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
CHEMISTRY (LAB)	FLUORIDE	12	12	0	12	12	0	21	21	0	24	24	0
	HARDNESS	12	12	0	12	12	0	21	21	0	24	24	0
	IONCAL	12	12	0	12	12	0	22	21	0	24	24	0
	LANGELIERS INDEX	12	12	0	11	11	0	21	21	0	24	24	0
	MAGNESIUM	12	12	0	12	12	0	21	21	0	24	24	0
	SODIUM	12	12	0	12	12	0	21	21	0	24	24	0
	AMMONIUM TOTAL	12	9	2	12	1	3	21	0	9	24	3	10
	NITRITE	12	11	1	12	0	9	21	0	20	24	4	17
	TOTAL NITRATES	12	12	0	12	12	0	21	21	0	24	24	0
	NITROGEN TOT KJELD	12	12	0	12	12	0	21	21	0	24	24	0
	PH	12	12	0	12	12	0	21	21	0	24	24	0
	PHOSPHORUS FIL REACT	12	4	5	12	0	3	.	.	.	.	.	.
	PHOSPHORUS TOTAL	12	12	0	12	0	12	.	.	.	.	.	.
	SULPHATE	12	12	0	12	12	0	21	21	0	24	24	0
	TURBIDITY	12	12	0	11	10	1	21	20	1	23	19	4
*TOTAL SCAN CHEMISTRY (LAB)		252	224	12	249	179	38	390	318	47	443	363	54
METALS	SILVER	12	0	2	12	0	2	21	0	5	24	0	5
	ALUMINUM	12	12	0	12	12	0	21	21	0	24	24	0
	ARSENIC	12	7	5	12	2	10	21	2	18	24	4	19
	BARIUM	12	12	0	12	12	0	21	21	0	24	24	0
	BORON	12	12	0	12	12	0	21	21	0	24	24	0
	BERYLLIUM	12	0	10	12	0	11	21	0	14	24	0	16

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
METALS	CADMIUM	12	0	5	12	0	5	21	0	7	24	1	17
	COBALT	12	0	12	12	0	12	21	0	21	24	1	23
	CHROMIUM	12	10	0	12	8	4	21	13	8	24	20	4
	COPPER	12	11	1	12	8	4	21	20	1	24	23	1
	IRON	12	12	0	12	0	2	21	8	13	24	0	24
	MERCURY	12	5	5	12	5	5	11	8	2	12	4	8
	MANGANESE	12	12	0	12	12	0	21	21	0	24	24	0
	MOLYBDENUM	12	12	0	12	12	0	21	21	0	24	24	0
	NICKEL	12	4	8	12	4	7	21	7	13	24	13	11
	LEAD	12	11	1	12	11	1	21	14	7	24	22	2
	ANTIMONY	12	11	1	12	11	1	21	20	1	24	24	0
	SELENIUM	12	0	6	12	0	9	21	0	15	24	0	17
	STRONTIUM	12	12	0	12	12	0	21	21	0	24	24	0
	TITANIUM	12	12	0	12	11	1	21	16	5	24	17	7
	THALLIUM	12	0	5	12	0	5	21	1	11	24	0	15
	URANIUM	12	11	1	12	11	1	21	19	2	24	21	3
	VANADIUM	12	1	11	12	6	6	21	10	11	24	10	14
	ZINC	12	12	0	12	8	4	21	20	1	24	24	0
*TOTAL SCAN METALS		288	179	73	288	157	90	494	284	155	564	328	186
*TOTAL GROUP INORGANIC & PHYSICAL		573	436	85	606	405	128	989	704	202	1133	797	240
CHLOROAROMATICS	HEXACHLOROBUTADIENE	12	0	0	10	0	0	11	0	0	11	0	0
	123 TRICHLOROBENZENE	12	0	0	10	0	0	11	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHLOROAROMATICS	1234 T-CHLOROBENZENE	12	0	0	10	0	0	11	0	0	11	0	0
	1235 T-CHLOROBENZENE	12	0	0	10	0	0	11	0	0	11	0	0
	124 TRICHLOROBENZENE	12	0	0	10	0	0	11	0	0	11	0	0
	1245 T-CHLOROBENZENE	12	0	0	10	0	0	11	0	0	11	0	0
	135 TRICHLOROBENZENE	12	0	0	10	0	0	11	0	0	11	0	0
	HCB	12	0	0	10	0	0	11	0	0	11	0	0
	HEXACHLOROETHANE	12	0	1	9	0	0	11	0	0	11	0	1
	OCTACHLOROSTYRENE	12	0	0	10	0	0	11	0	0	11	0	0
	PENTACHLOROBENZENE	12	0	0	10	0	0	11	0	0	11	0	0
	236 TRICHLOROTOLUENE	12	0	0	10	0	0	11	0	0	11	0	0
	245 TRICHLOROTOLUENE	12	0	0	10	0	0	11	0	0	11	0	0
	26A TRICHLOROTOLUENE	12	0	0	10	0	0	11	0	0	11	0	0
*TOTAL SCAN CHLOROAROMATICS		168	0	1	139	0	0	154	0	0	154	0	1
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	245-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	246-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	PENTACHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		12	0	0	12	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PAH	PHENANTHRENE	12	0	0	12	0	0	.	.	.	.	.	.
	ANTHRACENE	12	0	0	12	0	0	.	.	.	.	.	.
	FLUORANTHENE	12	0	0	12	0	0	.	.	.	.	.	.
	PYRENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	12	0	0	12	0	0	.	.	.	.	.	.
	CHRYSENE	12	0	0	12	0	0	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	4	0	0	4	0	0	.	.	.	.	.	.
	BENZO(E) PYRENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	12	0	0	12	0	0	.	.	.	.	.	.
	PERYLENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A) PYRENE	7	0	0	7	0	0	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	12	0	0	12	0	0	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	12	0	0	12	0	0	.	.	.	.	.	.
	INDENO(1,2,3-C,D) PY	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) CHRYSENE	12	0	0	12	0	0	.	.	.	.	.	.
	CORONENE	12	0	0	12	0	0	.	.	.	.	.	.
*TOTAL SCAN PAH		191	0	0	191	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	12	0	0	10	0	0	11	0	0	11	0	0
	ALPHA BHC	12	0	6	10	0	7	11	0	6	11	0	6
	BETA BHC	12	0	0	10	0	0	11	0	0	11	0	0
	LINDANE	12	0	0	10	0	0	11	0	1	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PESTICIDES & PCB	ALPHA CHLORDANE	12	0	0	10	0	0	11	0	0	11	0	0
	GAMMA CHLORDANE	12	0	0	10	0	0	11	0	0	11	0	0
	DIELDRIN	12	0	0	10	0	0	11	0	0	11	0	0
	METHOXYCHLOR	12	0	0	10	0	0	11	0	0	11	0	0
	ENDOSULFAN 1	12	0	0	10	0	0	11	0	0	11	0	0
	ENDOSULFAN II	12	0	0	10	0	0	11	0	0	11	0	0
	ENDRIN	12	0	0	10	0	0	11	0	0	11	0	0
	ENDOSULFAN SULPHATE	12	0	0	10	0	0	11	0	0	11	0	0
	HEPTACHLOR EPOXIDE	12	0	0	10	0	0	11	0	0	11	0	0
	HEPTACHLOR	12	0	0	10	0	0	11	0	0	11	0	0
	MIREX	12	0	0	10	0	0	11	0	0	11	0	0
	OXYCHLORDANE	12	0	0	10	0	0	11	0	0	11	0	0
	OPDDT	12	0	0	10	0	0	11	0	0	11	0	0
	PCB	12	0	0	10	0	0	11	0	0	11	0	0
	ODD	12	0	0	10	0	0	11	0	0	11	0	0
	PPDDE	12	0	0	10	0	0	11	0	0	11	0	0
	PPDDT	12	0	0	10	0	0	11	0	0	11	0	0
	AMETRINE	12	0	0	12	0	0	7	0	0	7	0	0
	ATRAZINE	12	0	1	12	0	1	7	1	0	7	1	0
	ATRATONE	12	0	0	12	0	0	7	0	0	7	0	0
	CYANAZINE (BLADEX)	12	0	0	12	0	0	7	0	0	7	0	0
	D-ETHYL ATRAZINE	12	0	1	12	0	0	7	0	0	7	0	0
	D-ETHYL SIMAZINE	12	0	0	12	0	0	7	0	0	7	0	0
	PROMETONE	12	0	0	12	0	0	7	0	0	7	0	0
	PROPAZINE	12	0	0	12	0	0	7	0	0	7	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PESTICIDES & PCB	PROMETRYNE	12	0	0	12	0	0	7	0	0	7	0	0
	METRIBUZIN (SENCOR)	12	0	0	12	0	0	7	0	0	7	0	0
	SIMAZINE	12	0	0	12	0	0	7	0	0	7	0	0
	ALACHLOR (LASSO)	12	0	0	12	0	0	7	0	0	7	0	0
	METOLACHLOR	12	0	0	12	0	0	7	0	0	7	0	0
*TOTAL SCAN PESTICIDES & PCB		408	0	8	366	0	8	322	1	7	322	1	6
PHENOLICS	PHENOLICS	12	8	4	12	10	2	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		12	8	4	12	10	2	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	12	0	0	10	0	0	11	0	0	11	0	0
	2,4,5-T	2	0	0	2	0	0	.	.	.	.	.	.
	2,4-D	2	0	0	2	0	0	.	.	.	.	.	.
	2,4-DB	2	0	0	2	0	0	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	2	0	0	2	0	0	.	.	.	.	.	.
	DICAMBA	2	0	0	2	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.
	SILVEX	2	0	0	2	0	0	.	.	.	.	.	.
	DIAZINON	2	0	0	2	0	0	.	.	.	.	.	.
	DICHLOROVOS	2	0	0	2	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	2	0	0	2	0	0	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
SPECIFIC PESTICIDES	ETHION	2	0	0	2	0	0	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.
	MALATHION	2	0	0	2	0	0	.	.	.	.	.	.
	MEVINPHOS	2	0	0	2	0	0	.	.	.	.	.	.
	METHYL PARATHION	2	0	0	2	0	0	.	.	.	.	.	.
	METHYLTRITHION	2	0	0	2	0	0	.	.	.	.	.	.
	PARATHION	2	0	0	2	0	0	.	.	.	.	.	.
	PHORATE	2	0	0	2	0	0	.	.	.	.	.	.
	RELDAN	2	0	0	2	0	0	.	.	.	.	.	.
	ROWNEL	2	0	0	2	0	0	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.
	BENONYL	1	0	0	1	0	0	.	.	.	.	.	.
	BUX	0	0	0	0	0	0	.	.	.	.	.	.
	CARBOFURAN	2	0	0	2	0	0	.	.	.	.	.	.
	CICP	2	0	0	2	0	0	.	.	.	.	.	.
	DIALLATE	2	0	0	2	0	0	.	.	.	.	.	.
	[illegible]AM	2	0	0	2	0	0	.	.	.	.	.	.
	IPC	2	0	0	2	0	0	.	.	.	.	.	.
	PROPOXUR	2	0	0	2	0	0	.	.	.	.	.	.
	CARBARYL	2	0	0	2	0	0	.	.	.	.	.	.
	BUTYLATE	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		65	0	0	63	0	0	11	0	0	11	0	0
VOLATILES	BENZENE	12	0	0	12	0	0	8	0	0	12	0	1

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
VOLATILES	TOLUENE	12	0	1	12	0	5	8	0	4	12	0	3
	ETHYLBENZENE	12	0	0	12	0	1	8	0	2	12	0	0
	P-XYLENE	12	0	0	12	0	0	8	0	0	12	0	0
	M-XYLENE	12	0	0	12	0	0	8	0	0	12	0	0
	O-XYLENE	12	0	0	12	0	0	8	0	0	12	0	0
	STYRENE	12	0	4	12	0	6	8	1	7	12	0	11
	1,1 DICHLOROETHYLENE	12	0	0	12	0	0	8	0	0	12	0	0
	METHYLENE CHLORIDE	12	0	0	12	0	0	8	0	0	12	0	0
	T1,2DICHLOROETHYLENE	12	0	0	12	0	0	8	0	0	12	0	0
	1,1 DICHLOROETHANE	12	0	0	12	0	0	8	0	0	12	0	0
	CHLOROFORM	12	0	3	12	12	0	8	8	0	12	12	0
	111, TRICHLOROETHANE	12	0	2	12	0	1	8	0	1	12	0	2
	1,2 DICHLOROETHANE	12	0	0	12	0	0	8	0	0	12	0	0
	CARBON TETRACHLORIDE	12	0	0	12	0	0	8	0	0	12	0	0
	1,2 DICHLOROPROPANE	12	0	0	12	0	0	8	0	0	12	0	0
	TRICHLOROETHYLENE	12	0	0	12	0	0	8	0	0	12	0	0
	DICHLOROBROMOMETHANE	12	0	1	12	12	0	8	8	0	12	12	0
	112 TRICHLOROETHANE	12	0	0	12	0	0	8	0	0	12	0	0
	CHLORODIBROMOMETHANE	12	0	0	12	12	0	8	8	0	12	12	0
	T-CHLOROETHYLENE	12	0	0	12	0	0	8	0	1	12	0	0
	BROMOFORM	12	0	0	12	0	12	8	0	8	12	0	12
	1122 T-CHLOROETHANE	12	0	0	12	0	0	8	0	0	12	0	0
	CHLOROBENZENE	12	0	0	12	0	0	8	0	0	12	0	0
	1,4 DICHLOROBENZENE	12	0	0	12	0	0	8	0	0	12	0	0
	1,3 DICHLOROBENZENE	12	0	0	12	0	0	8	0	0	12	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
VOLATILES	1,2 DICHLOROBENZENE	12	0	0	12	0	0	8	0	0	12	0	0
	ETHLYENE DIBROMIDE	12	0	0	12	0	0	8	0	0	12	0	0
	TOTL TRIHALOMETHANES	12	0	0	12	12	0	8	8	0	12	12	0
*TOTAL SCAN VOLATILES		348	0	11	348	48	25	232	33	23	348	48	29
*TOTAL GROUP ORGANIC		1204	8	24	1131	58	35	719	34	30	835	49	36
TOTAL		1813	474	109	1773	472	163	1738	743	232	2001	858	276

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, the AO is a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. Studies of long-term environmental trends and modelling may however, be adversely affected by the exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported with the code "<T". Results qualified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. The average of such data however, is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!IV	No Data: Inverted Septum
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded

!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
USD	Unreliable: Sample Decomposition Noted
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
BACTERIOLOGICAL						
FECAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 0 (A1)	
JAN	3 T48	.	.	.	.	.
FEB	2 T48	.	.	.	.	.
MAR	0 T48	.	.	.	.	.
APR	0 T48	.	.	.	.	.
MAY	7	.	.	.	.	.
JUN	0	.	.	.	.	.
JUL	6	.	.	.	.	.
AUG	7	.	.	.	.	.
SEP	15	.	.	.	.	.
OCT	8	.	.	.	.	.
NOV	12	.	.	.	.	.
DEC	2	.	.	.	.	.
STANDRD PLATE CNT MF ( )			DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)	
JAN	.	16 T48	.	13 T24	.	8 <=>
FEB	.	1 <=>	.	3 <=>	.	1 <=>
MAR	.	3 <=>	.	4 <=>	.	10 T48
APR	.	4 <=>	.	.	.	58 T24
MAY	.	1200	.	2 <=>	.	.
JUN	.	790	.	0 <=>	.	29
JUL	.	221	.	4 <=>	.	31
AUG	.	200	.	.	.	1200
SEP	.	9 <=>	.	36	.	20
OCT	.	22	.	6 <=>	.	8 <=>
NOV	.	1 <=>	.	0 <=>	.	2 <=>
DEC	.	1 <=>	.	0 <=>	.	2 <=>
TOTAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)	
JAN	610 A3C	0 T48	.	0 T24	.	1 T24
FEB	36 <=>	0 T48	.	0 T48	.	0 T48
MAR	240 T48	0 T48	.	0 T48	.	0 T48
APR	BDL	0 T48	.	.	.	0 T24
MAY	98 A3C	0 A3C	.	0	.	.
JUN	720 A3C	1 A3C	.	2	.	5
JUL	54 A3C	0	.	0	.	0
AUG	42 A3C	0	.	.	.	3
SEP	240	0	.	0	.	0
OCT	84 A3C	0	.	0	.	0
NOV	400 A3C	0	.	0	.	0
DEC	56	0	.	0	.	0
T COLIFORM BCKGRD MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = N/A	
JAN	19000 A3C	0 T48	.	0 T24	.	0 T24
FEB	700 T48	0 T48	.	0 T48	.	0 T48
MAR	5600 T48	0 T48	.	1 T48	.	0 T48

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	BDL	0 T48	.	.	.	0 T24
MAY	4800 >	2400 >	.	0	.	.
JUN	7800 A3C	2400 >	.	2	.	19
JUL	4800 >	0	.	0	.	3
AUG	4800 >	0	.	.	.	28
SEP	5400	0	.	0	.	0
OCT	2560 A3C	0	.	0	.	0
NOV	6200 A3C	0	.	0	.	0
DEC	840	0	.	0	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)						
FLD CHLORINE (COMB) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.070	.	.	.	.200
FEB	.	.150	.020	.050	.100	.150
MAR	.	.200	.	.200	.	.200
APR	.	.150	.010	.	.	.
MAY	.	.100	.	.	.	.100
JUN	.	.150	.	.000	.000	.000
JUL	.	.200	.	.010	.000	.000
AUG	.	.050	.	.	.100	.100
SEP	.	.080	.000	.000	.100	.200
OCT	.	.300	.	.	.060	.050
NOV	.	.110	.010	.110	.	.100
DEC	.	.800	.030	.110	.000	.050
FLD CHLORINE FREE ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.280	.	.	.090	.100
FEB	.	.350	.080	.150	.	.150
MAR	.	.400	.	.100	.	.100
APR	.	.300	.090	.100	.	.
MAY	.	.250	.100	.100	.	.
JUN	.	.350	.100	.100	.000	.000
JUL	.	.400	.010	.010	.000	.000
AUG	.	.350	.	.	.000	.200
SEP	.	.410	.100	.100	.000	.000
OCT	.	1.100	.100	.100	.000	.100
NOV	.	.300	.080	.090	.	.000
DEC	.	.400	.090	.090	.000	.050
FLD CHLORINE (TOTAL) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.350	.	.	.090	.300
FEB	.	.500	.100	.200	.100	.300
MAR	.	.600	.	.300	.	.300
APR	.	.450	.100	.100	.	.
MAY	.	.350	.100	.100	.	.100
JUN	.	.500	.100	.100	.000	.000
JUL	.	.600	.010	.010	.000	.000
AUG	.	.410	.	.	.100	.300
SEP	.	.490	.100	.100	.100	.200
OCT	.	1.400	.100	.100	.060	.150
NOV	.	.410	.090	.200	.	.100
DEC	.	.	.120	.200	.000	.100
FLD PH (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	7.800	7.600	.	.	7.500	7.500
FEB	7.900	7.600	7.500	7.300	7.600	7.300
MAR	7.800	7.600	.	7.600	7.800	7.400

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	7.900	.	7.550	7.200	7.400	7.200
MAY	7.900	7.600	7.600	7.550	7.800	7.600
JUN	7.900	7.600	7.600	7.550	7.400	7.500
JUL	8.000	7.700	7.700	7.200	7.500	7.550
AUG	7.900	7.500	.	.	7.600	7.600
SEP	7.800	7.700	7.300	7.300	7.600	7.700
OCT	7.700	7.500	7.500	7.600	7.600	7.600
NOV	.	7.800	7.500	7.500	7.700	7.450
DEC	7.700	7.600	7.500	7.550	7.600	7.600
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)	
JAN	1.000	1.500	.	.	17.100	6.300
FEB	1.000	4.000	17.400	5.000	15.000	5.500
MAR	1.500	1.000	.	4.700	18.000	5.000
APR	8.000	7.000	17.800	6.800	21.000	10.000
MAY	10.500	9.500	18.800	9.500	20.000	11.000
JUN	18.000	20.000	22.000	15.200	21.000	18.000
JUL	22.500	22.000	23.000	19.200	22.000	22.000
AUG	23.000	22.000	.	.	24.000	22.000
SEP	19.000	20.000	22.000	20.000	21.500	21.000
OCT	14.000	14.000	20.400	16.200	20.000	16.700
NOV	.	.	25.100	12.900	17.500	12.000
DEC	1.000	1.000	25.000	7.600	19.000	8.000
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)	
JAN	10.000	.240	.	.	.530	.750
FEB	4.900	.140	.360	.380	.820	.210
MAR	2.900	.220	.	.300	.240	.220
APR	5.000	.130	.330	.250	.340	.210
MAY	5.700	.220	.	.	.260	.370
JUN	5.400	.190	.150	.200	.230	.210
JUL	5.600	.090	.200	.170	.170	.160
AUG	6.400	.100	.	.	.170	.210
SEP	5.700	.090	.220	.180	.170	.240
OCT	4.400	.190	.260	.240	.340	.270
NOV	.	.130	.210	.240	.200	.260
DEC	6.500	.140	.140	.190	.180	.160

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
	CHEMISTRY (LAB)					
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)	
JAN	111.800	107.000	105.400	103.100	104.300	105.900
FEB	108.700	103.500	105.800	103.000	103.600	104.200
MAR	104.400	100.600	.	100.100	101.800	100.600
APR	106.700	101.800	101.900	100.400	102.300	101.400
MAY	106.000	102.200	103.600	101.100	102.200	102.500
JUN	100.500	97.300	98.000	95.800	97.900	96.300
JUL	103.100	97.800	99.100	97.800	97.500	98.300
AUG	101.900	96.000	.	.	97.100	96.400
SEP	101.000	95.100	96.100	96.100	95.700	95.600
OCT	105.000	100.000	102.300	101.300	102.600	101.700
NOV	104.800	98.700	103.700	99.600	100.700	100.400
DEC	105.200	100.200	102.500	99.300	99.800	100.500
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)	
JAN	40.600	41.000	40.400	40.000	40.800	40.200
FEB	41.000	40.400	41.400	40.000	39.800	39.800
MAR	39.800	39.600	.	39.800	39.800	40.200
APR	38.400	39.000	41.000	41.000	40.600	40.600
MAY	40.000	40.600	41.200	40.000	39.000	39.000
JUN	38.000	38.000	38.200	37.800	37.600	38.000
JUL	37.800	36.400	37.200	37.200	36.000	36.400
AUG	37.600	37.600	.	.	38.200	38.400
SEP	37.000	37.600	37.600	37.000	37.200	36.800
OCT	38.400	37.800	38.400	38.400	38.400	38.200
NOV	38.600	39.200	39.800	38.600	39.200	38.000
DEC	38.000	38.000	40.000	39.300	38.000	38.000
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)	
JAN	17.900	19.500	18.900	18.900	19.200	19.100
FEB	17.000	18.300	18.400	18.100	18.200	18.300
MAR	16.100	17.000	.	16.900	16.700	16.800
APR	17.600	18.400	18.700	18.600	18.600	18.500
MAY	16.100	17.000	17.500	17.500	17.600	17.600
JUN	15.800	16.800	17.200	16.500	15.900	15.900
JUL	15.600	16.700	17.200	17.200	17.100	17.100
AUG	15.700	16.800	.	.	16.900	17.100
SEP	15.100	16.200	16.600	16.500	16.700	16.600
OCT	15.700	16.500	16.600	16.500	16.600	16.600
NOV	15.600	17.100	16.800	16.700	16.300	16.200
DEC	15.600	16.500	16.300	16.100	16.100	16.100
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)	
JAN	2.500	.500 <T	1.500 <T	1.500 <T	1.000 <T	1.000 <T
FEB	2.500	.500 <T	2.000 <T	2.500	4.000	1.000 <T
MAR	.500 <T	1.000 <T	.	2.000 <T	.500 <T	1.500 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	4.000	1.500 <T	2.000 <T	2.500	1.500 <T	2.000 <T
MAY	5.000	2.500	3.000	3.000	2.000 <T	2.000 <T
JUN	3.000	1.000 <T	1.500 <T	1.500 <T	1.500 <T	1.000 <T
JUL	2.500	.500 <T	1.000 <T	1.500 <T	1.500 <T	1.000 <T
AUG	2.500	ICR	.	.	1.000 <T	1.000 <T
SEP	2.000 <T	.500 <T	1.000 <T	1.500 <T	1.000 <T	1.000 <T
OCT	2.000 <T	1.000 <T	1.000 <T	1.500 <T	1.000 <T	1.000 <T
NOV	2.500	.500 <T	1.500 <T	1.500 <T	1.500 <T	1.500 <T
DEC	1.500 <T	1.000 <T	1.500 <T	1.500 <T	1.500 <T	1.500 <T
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)	
JAN	325	329	332	329	329	329
FEB	319	323	328	322	321	323
MAR	313	315	.	314	315	314
APR	327	330	332	329	331	330
MAY	314	317	320	316	315	316
JUN	301	302	307	304	307	304
JUL	297	300	303	299	300	299
AUG	289	294	.	.	296	295
SEP	293	296	299	297	298	298
OCT	305	309	313	310	312	311
NOV	307	311	317	311	310	311
DEC	308	310	316	311	309	310
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)	
JAN	.120	.100	.100	.100	.100	.100
FEB	.120	.120	.120	.100	.120	.120
MAR	.120	.120	.	.120	.120	.120
APR	.120	.120	.120	.120	.120	.140
MAY	.140	.100	.100	.060	.100	.120
JUN	.080	.080	.080	.060	.060	.080
JUL	.140	.120	.120	.120	.120	.120
AUG	.120	.100	.	.	.100	.120
SEP	.100	.100	.100	.100	.100	.100
OCT	.120	.100	.100	.100	.100	.100
NOV	.120	.120	.120	.100	.100	.100
DEC	.120	.120	.120	.100	.120	.100
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)	
JAN	139.000	140.000	140.000	138.000	141.000	139.000
FEB	141.000	138.000	141.000	138.000	137.000	137.000
MAR	137.000	136.000	.	137.000	137.000	137.000
APR	136.000	137.000	142.000	142.000	142.000	141.000
MAY	138.000	139.000	140.000	137.000	135.000	135.000
JUN	131.000	131.000	131.000	130.000	130.000	130.000
JUL	130.000	127.000	129.000	129.000	126.000	126.000
AUG	131.000	131.000	.	.	133.000	132.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	128.000	130.000	129.000	128.000	129.000	128.000
OCT	133.000	131.000	132.000	133.000	133.000	132.000
NOV	133.000	135.000	137.000	133.000	135.000	132.000
DEC	130.500	130.800	135.700	134.100	131.000	130.900
IONCAL (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	2.484	2.192	2.521	2.197	.351	2.060
FEB	1.930	.341	.505	.339	.170	.520
MAR	3.995	3.014	.000 NAF	3.583	2.941	3.542
APR	2.589	1.608	.992	2.128	.763	1.420
MAY	.151	.033	.600	.968	3.037	3.066
JUN	.553	.558	2.055	.350	1.144	.053
JUL	.024	2.928	2.500	1.508	2.836	3.315
AUG	.707	.847	.	.	.704	.610
SEP	.985	1.869	.787	1.311	.729	1.088
OCT	.603	1.131	2.073	.942	2.112	1.890
NOV	3.600	1.786	2.114	1.401	.977	2.481
DEC	4.336	4.368	3.242	2.544	3.868	3.922
LANGELIERS INDEX (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.223	-.212	.425	.211	.205	.185
FEB	.446	.228	.277	.271	.262	.234
MAR	.546	.507	.	.568	.535	.534
APR	.389	.305	.297	.300	.344	.250
MAY	.565	.515	.597	.544	.548	.479
JUN	.233	.308	.242	.238	.194	.203
JUL	.523	.342	.436	.402	.356	.365
AUG	.449	.361	.	.	.382	.371
SEP	.426	.336	.299	.313	.313	.328
OCT	.595	.455	.502	.508	.493	.467
NOV	.515	.395	.493	.402	.354	.379
DEC	.590	.548	.540	.509	.567	.560
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)	
JAN	9.200	9.200	9.400	9.300	9.400	9.500
FEB	9.300	9.100	9.200	9.300	9.300	9.300
MAR	9.200	9.100	.	9.100	9.100	8.800
APR	9.700	9.700	9.700	9.700	9.800	9.800
MAY	9.200	9.100	9.000	9.100	9.100	9.100
JUN	8.800	8.900	8.700	8.700	8.800	8.600
JUL	8.800	8.800	8.900	8.800	8.700	8.700
AUG	8.900	9.000	.	.	9.000	8.800
SEP	8.600	8.800	8.600	8.700	8.600	8.700
OCT	9.000	9.000	8.800	8.900	8.900	8.900
NOV	9.000	9.100	9.000	9.100	9.000	9.000
DEC	8.650	8.700	8.700	8.750	8.800	8.800

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)	
JAN	10.600	11.000	10.600	10.400	11.000	10.800
FEB	10.000	9.800	9.800	9.800	9.800	9.800
MAR	10.600	10.200	.	10.200	10.200	10.200
APR	10.200	10.200	10.200	10.400	10.400	10.200
MAY	9.600	9.600	9.800	9.600	9.400	9.600
JUN	9.600	9.600	9.600	9.600	9.600	9.800
JUL	9.200	9.000	9.000	9.200	9.600	9.200
AUG	8.600	8.400	.	.	8.400	8.400
SEP	8.600	9.000	8.800	8.800	9.200	9.000
OCT	9.200	9.200	9.400	9.400	9.400	9.400
NOV	9.200	9.400	9.200	9.400	9.200	9.400
DEC	8.800	8.700	8.600	8.400	8.400	8.600
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)	
JAN	.014	.010	.006 <T	.004 <T	.014	.010
FEB	.014	.004 <T	.002 <T	BDL	.012	.002 <T
MAR	.022	BDL	.	BDL	.008 <T	.004 <T
APR	.004 <T	BDL	BDL	.002 <T	.006 <T	BDL
MAY	.012	BDL	.002 <T	.002 <T	.002 <T	BDL
JUN	.022	BDL	BDL	BDL	BDL	BDL
JUL	.030	BDL	BDL	BDL	.006 <T	.004 <T
AUG	.016	.004 <T	.	.	.004 <T	.004 <T
SEP	.028	.006 <T	.004 <T	.002 <T	BDL	.002 <T
OCT	.008 <T	BDL	.002 <T	BDL	BDL	BDL
NOV	.010	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)	
JAN	.008	BDL	.004 <T	.003 <T	BDL	BDL
FEB	.006	.001 <T	.002 <T	.001 <T	.002 <T	.001 <T
MAR	.006	.004 <T	.	.004 <T	.005	.006
APR	.009	.003 <T	.003 <T	.004 <T	.004 <T	.003 <T
MAY	.007	.003 <T	.003 <T	.003 <T	.003 <T	.003 <T
JUN	.008	.002 <T	.003 <T	.002 <T	.004 <T	.002 <T
JUL	.016	.003 <T	.004 <T	.003 <T	.008	.005
AUG	.005	.001 <T	.	.	.001 <T	.001 <T
SEP	.005	.001 <T	.001 <T	.001 <T	.002 <T	.001 <T
OCT	.004 <T	BDL	.001 <T	BDL	.001 <T	BDL
NOV	.005	BDL	.001 <T	.001 <T	.001 <T	.001 <T
DEC	.006	.002 <T	.001 <T	.001 <T	.001 <T	.001 <T
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)	
JAN	.275	.285	.290	.265	.285	.290
FEB	.265	.265	.290	.270	.270	.270
MAR	.205	.205	.	.205	.210	.205
APR	.435	.400	.395	.395	.545	.410

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	.305	.305	.330	.310	.295	.300
JUN	.150	.130	.165	.135	.115	.160
JUL	.145	.130	.170	.140	.145	.135
AUG	.065	.065	.	.	.065	.075
SEP	.085	.100	.120	.110	.110	.105
OCT	.115	.120	.130	.115	.115	.110
NOV	.230	.235	.250	.230	.230	.240
DEC	.270	.270	.270	.265	.270	.265
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A	
JAN	.280	.190	.190	.190	.210	.190
FEB	.260	.190	.200	.180	.200	.230
MAR	.250	.200	.	.180	.190	.190
APR	.300	.230	.220	.200	.220	.220
MAY	.300	.210	.300	.260	.240	.210
JUN	.290	.180	.230	.240	.190	.180
JUL	.300	.180	.180	.190	.170	.170
AUG	.290	.200	.	.	.180	.180
SEP	.280	.170	.170	.170	.160	.170
OCT	.240	.150	.170	.210	.170	.170
NOV	.280	.180	.220	.160	.180	.190
DEC	.240	.190	.220	.180	.190	.210
PH (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	8.010	7.590	8.240	8.040	8.020	8.000
FEB	8.240	8.050	8.080	8.100	8.090	8.060
MAR	8.370	8.350	.	8.410	8.370	8.370
APR	8.220	8.150	8.120	8.130	8.170	8.080
MAY	8.380	8.340	8.410	8.380	8.390	8.320
JUN	8.090	8.180	8.110	8.120	8.070	8.080
JUL	8.370	8.230	8.310	8.280	8.250	8.250
AUG	8.300	8.240	.	.	8.250	8.240
SEP	8.290	8.220	8.180	8.200	8.200	8.220
OCT	8.430	8.320	8.350	8.360	8.340	8.320
NOV	8.350	8.250	8.320	8.260	8.200	8.240
DEC	8.430	8.410	8.370	8.360	8.430	8.420
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A	
JAN	.005	.000 <T	.	.	.	.
FEB	.003	BDL	.	.	.	.
MAR	.001 <T	.000 <T	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	.001 <T	BDL	.	.	.	.
JUN	BDL	BDL	.	.	.	.
JUL	.001 <T	BDL	.	.	.	.
AUG	.002	BDL	.	.	.	.
SEP	.002 <T	.001 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	BDL	BDL	.	.	.	.
NOV	.001 <T	BDL	.	.	.	.
DEC	.002	BDL	.	.	.	.
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)	
JAN	.018	.004 <T	.	.	.	.
FEB	.012	.002 <T	.	.	.	.
MAR	.011	.003 <T	.	.	.	.
APR	.014	.004 <T	.	.	.	.
MAY	.014	.002 <T	.	.	.	.
JUN	.019	.009 <T	.	.	.	.
JUL	.018	.004 <T	.	.	.	.
AUG	.015	.003 <T	.	.	.	.
SEP	.014	.004 <T	.	.	.	.
OCT	.013	.005 <T	.	.	.	.
NOV	.013	.004 <T	.	.	.	.
DEC	.014	.003 <T	.	.	.	.
SULPHATE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 500. (A3)	
JAN	27.190	30.990	32.240	32.240	31.380	31.160
FEB	24.660	27.670	27.760	28.220	27.330	27.640
MAR	25.230	27.340	.	27.590	27.170	27.110
APR	27.800	31.510	31.810	32.060	31.270	31.300
MAY	27.850	31.110	31.330	31.450	30.550	30.730
JUN	26.750	30.460	31.010	30.720	30.660	30.890
JUL	23.970	27.930	27.620	27.580	27.410	27.470
AUG	24.940	29.260	.	.	29.310	29.230
SEP	24.340	27.440	28.420	28.270	28.480	28.250
OCT	25.170	28.190	28.270	28.150	28.490	28.560
NOV	30.030	33.440	30.110	31.100	30.600	30.700
DEC	26.720	30.340	31.530	31.910	30.300	30.160
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)	
JAN	9.900	.480	.890	.670	.340	.590
FEB	3.800	.860	.760	.600	1.070 RRV	.380
MAR	3.400	.320	.	.420	.610	.350
APR	6.300	.470	.530	.680	.780	.440
MAY	7.400	.900	.820	.820	.750	.700
JUN	7.400	.360	.430	.390	.490	.370
JUL	7.200	.400	.560	.550	.450	.290
AUG	9.800	ICR	.	.	.450	ICR
SEP	7.500	.240 <T	.350	.340	.240 <T	.530
OCT	5.000	.350	.500	.600	.250 <T	.250 <T
NOV	.280	.310	.260	.460	.160	.120
DEC	9.800	.390	.220 <T	.410	.260	.230 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
METALS						
SILVER (UG/L)				DET'N LIMIT = .020	GUIDELINE = 50. (A1)	
JAN	.050 <T	BDL	.050 <T	BDL	BDL	.050 <T
FEB	.060 <T	.150 <T	.170 <T	.060 <T	.050 <T	.100 <T
MAR	BDL	BDL	BDL	IRE	BDL	BDL
APR	BDL	.060 <T	.030 <T	.040 <T	BDL	.030 <T
MAY	BDL	BDL	BDL	BDL	BDL	.030 <T
JUN	BDL	BDL	BDL	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	.	.	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
ALUMINUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = 100.(A4)	
JAN	116.000	76.560	51.040	56.840	76.560	56.840
FEB	67.280	76.560	59.160	66.120	88.160	62.640
MAR	127.600	106.720	89.320	IRE	95.120	92.800
APR	73.080	109.040	64.960	70.760	91.640	84.680
MAY	150.800	185.600	116.000	127.600	162.400	162.400
JUN	130.000	210.000	130.000	160.000	170.000	170.000
JUL	89.480	311.540	148.470	276.150	240.660	268.590
AUG	97.000	210.000	.	.	180.000	160.000
SEP	130.000	190.000	120.000	140.000	130.000	150.000
OCT	120.000	170.000	130.000	150.000	150.000	150.000
NOV	84.000	110.000	100.000	84.000	110.000	86.000
DEC	80.000	80.000	63.000	56.000	70.000	61.000
ARSENIC (UG/L)				DET'N LIMIT = 0.050	GUIDELINE = 50.0 (A1)	
JAN	.890 <T	.170 <T	.100 <T	.220 <T	.250 <T	.380 <T
FEB	1.700	1.100	.630 <T	.430 <T	1.400	.620 <T
MAR	1.600	.850 <T	.470 <T	IRE	.850 <T	1.100
APR	1.200	.670 <T	.770 <T	.630 <T	.860 <T	.710 <T
MAY	.920 <T	1.100	1.100	1.100	.900 <T	.900 <T
JUN	1.200	.490 <T	.190 <T	BDL	.160 <T	BDL
JUL	1.270	.900 <T	.860 <T	.850 <T	.750 <T	.820 <T
AUG	1.600	.980 <T	.	.	1.100	1.200
SEP	1.200	.670 <T	.430 <T	.670 <T	.670 <T	.610 <T
OCT	.760 <T	.430 <T	.400 <T	.380 <T	.470 <T	.390 <T
NOV	.470 <T	.260 <T	.430 <T	.150 <T	.380 <T	.410 <T
DEC	.660 <T	.400 <T	.160 <T	.210 <T	.180 <T	.170 <T
BARIUM (UG/L)				DET'N LIMIT = 0.020	GUIDELINE = 1000. (A1)	
JAN	24.000	22.000	26.000	22.000	25.000	24.000
FEB	24.000	24.000	26.000	23.000	31.000	23.000
MAR	21.000	20.000	20.000	IRE	20.000	20.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	22.000	21.000	25.000	21.000	21.000	21.000
MAY	21.000	20.000	24.000	20.000	20.000	20.000
JUN	24.000	22.000	26.000	22.000	23.000	22.000
JUL	24.930	23.600	25.420	23.510	23.410	23.090
AUG	25.000	23.000	.	.	24.000	23.000
SEP	23.000	22.000	23.000	24.000	24.000	23.000
OCT	22.000	22.000	24.000	22.000	22.000	22.000
NOV	22.000	21.000	26.000	21.000	22.000	20.000
DEC	24.000	21.000	28.000	21.000	23.000	21.000
BORON (UG/L)				DET'N LIMIT = 0.200 GUIDELINE = 5000. (A1)		
JAN	50.000	50.000	27.000	41.000	27.000	44.000
FEB	71.000	32.000	28.000	28.000	83.000	40.000
MAR	90.000	90.000	90.000	IRE	99.000	97.000
APR	250.000	230.000	43.000	40.000	100.000	79.000
MAY	31.000	40.000	43.000	41.000	25.000	32.000
JUN	34.000	24.000	43.000	27.000	44.000	26.000
JUL	56.080	54.610	55.130	51.490	52.300	52.280
AUG	51.000	39.000	.	.	54.000	48.000
SEP	45.000	43.000	44.000	42.000	39.000	47.000
OCT	30.000	35.000	27.000	23.000	45.000	30.000
NOV	23.000	26.000	39.000	35.000	30.000	34.000
DEC	26.000	28.000	31.000	27.000	27.000	27.000
BERYLLIUM (UG/L)				DET'N LIMIT = 0.010 GUIDELINE = N/A		
JAN	.090 <T	.040 <T	BDL	.090 <T	.020 <T	.290 <T
FEB	.320 <T	.090 <T	.040 <T	.040 <T	.260 <T	BDL
MAR	.170 <T	.270 <T	.230 <T	IRE	.210 <T	.140 <T
APR	.160 <T	.230 <T	.040 <T	BDL	.190 <T	BDL
MAY	.030 <T	.100 <T	.060 <T	.020 <T	BDL	.020 <T
JUN	BDL	.040 <T	.100 <T	BDL	BDL	BDL
JUL	.140 <T	.150 <T	.130 <T	.110 <T	.070 <T	.090 <T
AUG	.100 <T	.060 <T	.	.	.080 <T	.080 <T
SEP	.120 <T	.070 <T	.090 <T	.070 <T	.050 <T	.120 <T
OCT	.040 <T	.090 <T	BDL	BDL	.030 <T	BDL
NOV	.070 <T	.040 <T	.100 <T	.080 <T	.070 <T	.060 <T
DEC	BDL	BDL	BDL	BDL	BDL	BDL
CADMIUM (UG/L)				DET'N LIMIT = 0.050 GUIDELINE = 5.000 (A1)		
JAN	BDL	BDL	BDL	BDL	BDL	.130 <T
FEB	.090 <T	.500 <T	.190 <T	BDL	.270 <T	1.200
MAR	.220 <T	.140 <T	.090 <T	IRE	.490 <T	.290 <T
APR	BDL	BDL	BDL	BDL	.280 <T	.090 <T
MAY	BDL	.080 <T	BDL	.090 <T	.130 <T	BDL
JUN	BDL	.130 <T	.070 <T	.090 <T	.380 <T	.260 <T
JUL	BDL	BDL	.140 <T	.100 <T	.200 <T	.180 <T
AUG	.100 <T	.130 <T	.	.	.260 <T	.130 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	BDL	BDL	BDL	.100 <T	.100 <T
OCT	BDL	BDL	BDL	BDL	BDL	.080 <T
NOV	.060 <T	BDL	BDL	BDL	.090 <T	BDL
DEC	.060 <T	BDL	BDL	BDL	BDL	BDL
COBALT (UG/L)				DET'N LIMIT = 0.020 GUIDELINE = N/		
JAN	.240 <T	.170 <T	.320 <T	.180 <T	.150 <T	.170 <T
FEB	.250 <T	.230 <T	.200 <T	.240 <T	.260 <T	.240 <T
MAR	.170 <T	.130 <T	.200 <T	IRE	.320 <T	.140 <T
APR	.130 <T	.080 <T	.070 <T	.060 <T	.200 <T	.120 <T
MAY	.310 <T	.250 <T	.260 <T	.220 <T	.220 <T	.290 <T
JUN	.300 <T	.080 <T	.100 <T	.080 <T	.190 <T	18.000
JUL	.410 <T	.250 <T	.170 <T	.190 <T	.230 <T	.260 <T
AUG	.210 <T	.090 <T	.	.	.120 <T	.110 <T
SEP	.220 <T	.050 <T	.070 <T	.060 <T	.090 <T	.070 <T
OCT	.130 <T	.090 <T	.060 <T	.030 <T	.050 <T	.070 <T
NOV	.110 <T	.300 <T	.160 <T	.280 <T	.080 <T	.110 <T
DEC	.230 <T	.100 <T	.100 <T	.100 <T	.190 <T	.120 <T
CHROMIUM (UG/L)				DET'N LIMIT = 0.100 GUIDELINE = 50. (A1)		
JAN	5.200	5.300	1.200	3.400	.630 <T	3.900
FEB	6.200	.910 <T	.170 <T	.110 <T	7.000	2.100
MAR	7.600	7.400	7.100	IRE	8.700	8.000
APR	7.500	7.100	.590 <T	.590 <T	2.800	2.100
MAY	4.000	7.400	7.800	7.300	1.500	4.700
JUN	3.300	.390 <T	5.200	.830 <T	5.700	.720 <T
JUL	6.710	6.130	6.150	5.570	5.910	5.800
AUG	5.000	2.700	.	.	5.300	4.400
SEP	5.600	4.600	5.000	6.000	4.700	6.500
OCT	3.100	3.800	1.400	.160 <T	2.400	2.900
NOV	BDL	.350 <T	2.000	2.200	1.400	2.200
DEC	BDL	1.800 <T	1.800 <T	1.800 <T	1.700 <T	1.900 <T
COPPER (UG/L)				DET'N LIMIT = .100 GUIDELINE = 1000 (A3)		
JAN	43.000	1.300	17.000	2.400	12.000	1.900
FEB	5.300	2.100	22.000	2.800	22.000	4.300
MAR	6.200	1.200	2.000	IRE	350.000	11.000
APR	6.200	1.100	16.000	2.300	280.000	4.200
MAY	6.400	1.100	16.000	2.000	180.000	2.700
JUN	5.500	1.100	15.000	2.400	170.000	5.700
JUL	5.020	1.140	18.240	2.320	107.950	3.130
AUG	8.400	.920 <T	.	.	150.000	3.900
SEP	6.100	.870 <T	11.000	2.400	49.000	2.500
OCT	8.400	1.100	10.000	2.100	11.000	2.500
NOV	6.100	1.000 <T	16.000	2.100	38.000	2.500
DEC	4.200 <T	1.200 <T	15.000	2.000 <T	210.000	3.400 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
IRON (UG/L)				DET'N LIMIT = 4.000 GUIDELINE = 300. (A3)		
JAN	150.000	18.000 <T	45.000 <T	77.000	30.000 <T	31.000 <T
FEB	72.000	BDL	74.000	76.000	12.000 <T	27.000 <T
MAR	96.000	12.000 <T	50.000 <T	IRE	23.000 <T	32.000 <T
APR	69.000	BDL	53.000	66.000	26.000 <T	32.000 <T
MAY	130.000	BDL	67.000	69.000	26.000 <T	18.000 <T
JUN	160.000	BDL	35.000 <T	51.000	25.000 <T	22.000 <T
JUL	111.000	BDL	25.330 <T	32.280 <T	35.690 <T	16.300 <T
AUG	110.000	BDL	.	.	20.000 <T	33.000 <T
SEP	160.000	BDL	14.000 <T	34.000 <T	15.000 <T	19.000 <T
OCT	140.000	BDL	26.000 <T	41.000 <T	14.000 <T	18.000 <T
NOV	120.000	BDL	32.000 <T	48.000 <T	20.000 <T	19.000 <T
DEC	130.000	BDL	26.000 <T	41.000 <T	36.000 <T	39.000 <T
MERCURY (UG/L)				DET'N LIMIT = 0.010 GUIDELINE = 1.000 (A1)		
JAN	.100	.080	.	.130	.	.030 <T
FEB	.250	.200	.	.130	.	.040 <T
MAR	.350	.340	.	.050 <T	.	.060
APR	.480	.560	.	.170	.	.060
MAY	BDL	BDL	.	.140	.	.020 <T
JUN	.070	.050 <T	.	.100	.	.050 <T
JUL	.020 <T	.020 <T	.	.150	.	.040 <T
AUG	.030 <T	BDL	.	.	.	.050 <T
SEP	.040 <T	.030 <T	.	.100	.	.040 <T
OCT	.040 <T	.080	.	BDL	.	.050 <T
NOV	BDL	.040 <T	.	.650	.	.080
DEC	.050 <T	.050 <T	.	.020 <T	.	.060
MANGANESE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 50.0 (A3)		
JAN	8.700	1.300	4.300	3.800	2.200	2.600
FEB	5.100	1.200	6.200	5.500	1.900	2.300
MAR	4.400	1.100	3.500	IRE	3.700	2.800
APR	5.700	.790	5.500	5.400	3.800	3.400
MAY	8.600	1.600	6.900	6.800	3.400	3.400
JUN	13.000	1.600	5.200	5.400	4.100	19.000
JUL	11.650	1.620	4.950	4.260	2.720	3.120
AUG	11.000	.570	.	.	3.000	2.500
SEP	14.000	1.700	4.300	4.300	3.000	3.600
OCT	7.900	1.300	3.600	3.700	2.600	3.100
NOV	7.000	1.300	4.200	5.000	3.000	2.900
DEC	7.100	1.000	3.600	3.200	3.100	2.800
MOLYBDENUM (UG/L)				DET'N LIMIT = 0.020 GUIDELINE = N/A		
JAN	1.200	1.200	1.200	1.200	1.200	1.400
FEB	1.600	1.800	1.600	1.800	1.800	1.400
MAR	1.600	1.600	1.600	IRE	1.400	1.500
APR	1.100	1.300	1.200	1.300	1.200	1.300

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DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	1.100	1.300	1.400	1.300	1.300	1.500
JUN	1.400	1.500	1.500	1.400	1.500	1.400
JUL	1.400	1.680	1.560	1.670	1.560	1.550
AUG	1.200	1.500	.	.	1.500	1.300
SEP	1.100	1.300	1.200	1.200	1.200	1.300
OCT	1.000	1.100	1.200	1.300	1.200	1.200
NOV	.990	1.200	1.000	1.100	1.200	1.200
DEC	1.100	1.200	1.200	1.200	1.100	1.200
NICKEL (UG/L)				DET'N LIMIT = 0.100 GUIDELINE = 50. (F3)		
JAN	2.300	2.400	2.500	2.200	2.000 <T	2.000 <T
FEB	1.800 <T	2.300	1.900 <T	1.700 <T	4.900	1.200 <T
MAR	1.800 <T	1.600 <T	1.400 <T	IRE	170.000	2.200
APR	1.400 <T	1.100 <T	1.500 <T	1.300 <T	96.000	1.700 <T
MAY	3.700	3.300	3.600	3.200	6.600	3.100
JUN	2.000 <T	BDL	.600 <T	BDL	2.800	.250 <T
JUL	3.800	3.250	2.400	3.170	4.600	2.720
AUG	1.500 <T	1.000 <T	.	.	4.500	.940 <T
SEP	1.800 <T	1.100 <T	2.300	1.500 <T	5.100	2.100
OCT	1.000 <T	.880 <T	1.200 <T	.350 <T	1.100 <T	.680 <T
NOV	1.100 <T	1.000 <T	1.600 <T	.900 <T	1.600 <T	1.100 <T
DEC	2.400	.790 <T	1.300 <T	.980 <T	3.100	1.400 <T
LEAD (UG/L)				DET'N LIMIT = 0.050 GUIDELINE = 50. (A1)		
JAN	.610	.540	3.300	.080 <T	1.600	.350
FEB	1.200	6.600	2.600	.480	16.000	20.000
MAR	.710	.500	.240	IRE	40.000	1.400
APR	.500	.500	.930	.170 <T	19.000	.600
MAY	.640	.690	1.300	.200 <T	7.700	.500
JUN	.770	.700	1.100	.090 <T	6.500	.920
JUL	.840	1.140	1.360	.230	4.910	.800
AUG	.790	.820	.	.	4.500	.750
SEP	.390	.380	.660	.120 <T	1.900	.340
OCT	1.300	.930	.760	.300	1.100	.640
NOV	.440	.540	.800	.090 <T	1.300	.110 <T
DEC	.300 <T	.390 <T	1.000	.090 <T	2.300	.240 <T
ANTIMONY (UG/L)				DET'N LIMIT = .050 GUIDELINE = 146. (D4)		
JAN	.390	.490	.560	.490	.460	.550
FEB	.980	1.000	1.000	1.100	1.100	1.300
MAR	.790	.810	.830	IRE	.930	.800
APR	.600	.730	.690	.670	.650	.650
MAY	.790	.930	.960	.970	.910	.910
JUN	.790	.860	.940	.860	.950	38.000
JUL	.730	.750	.890	.630	.830	.760
AUG	.690	.720	.	.	.840	.800
SEP	.510	.570	.620	.640	.600	.570

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	.550	.490	.510	.530	.530	.470
NOV	.440	.910	.760	.570	.610	.520
DEC	.400 <T	.470 <T	.520	.480 <T	.670	.530
SELENIUM (UG/L)			DET'N LIMIT = 0.200 GUIDELINE = 10. (A1)			
JAN	1.400 <T	2.400 <T	2.200 <T	2.300 <T	2.900 <T	1.500 <T
FEB	.890 <T	2.200 <T	3.400 <T	1.200 <T	2.400 <T	3.400 <T
MAR	.940 <T	1.900 <T	1.800 <T	IRE	1.500 <T	3.100 <T
APR	3.000 <T	4.900 <T	3.400 <T	4.600 <T	4.300 <T	5.100 <T
MAY	1.700 <T	4.500 <T	4.300 <T	7.200 <T	9.400 <T	7.600 <T
JUN	1.800 <T	2.500 <T	3.100 <T	4.500 <T	3.400 <T	2.600 <T
JUL	BDL	3.360 <T	1.910 <T	2.120 <T	3.260 <T	BDL
AUG	BDL	2.700 <T	.	.	2.600 <T	1.700 <T
SEP	BDL	1.300 <T	1.300 <T	1.100 <T	1.300 <T	1.200 <T
OCT	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
STRONTIUM (UG/L)			DET'N LIMIT = .050 GUIDELINE = N/A			
JAN	190.000	180.000	200.000	190.000	190.000	190.000
FEB	200.000	200.000	210.000	190.000	210.000	180.000
MAR	160.000	170.000	170.000	IRE	170.000	160.000
APR	200.000	190.000	210.000	200.000	200.000	200.000
MAY	190.000	190.000	200.000	190.000	190.000	190.000
JUN	200.000	180.000	200.000	180.000	190.000	180.000
JUL	189.100	185.280	195.380	188.550	184.000	185.090
AUG	180.000	170.000	.	.	180.000	170.000
SEP	180.000	170.000	180.000	180.000	180.000	180.000
OCT	180.000	180.000	180.000	170.000	170.000	170.000
NOV	180.000	180.000	200.000	180.000	180.000	180.000
DEC	180.000	180.000	190.000	180.000	180.000	180.000
TITANIUM (UG/L)			DET'N LIMIT = .050 GUIDELINE = N/A			
JAN	4.900	2.400	1.800 <T	1.900 <T	1.600 <T	1.800 <T
FEB	5.600	4.000	4.200	4.400	4.300	3.700
MAR	9.800	4.100	4.100	IRE	4.400	4.200
APR	8.000	4.900	5.100	4.900	5.600	5.300
MAY	5.000	2.900	2.200	2.000 <T	1.500 <T	1.600 <T
JUN	9.200	4.000	2.900	3.100	3.000	4.700
JUL	7.620	5.290	4.050	3.800	3.850	4.000
AUG	8.400	4.400	.	.	4.200	4.700
SEP	13.000	5.800	2.600	2.200	2.400	2.600
OCT	7.400	3.500	3.000	3.000	2.300	1.900 <T
NOV	5.500	3.700	3.900	3.700	2.600	2.600
DEC	5.800	3.800 <T	2.600 <T	2.900 <T	1.800 <T	1.700 <T
THALLIUM (UG/L)			DET'N LIMIT = .010 GUIDELINE = 13. (D4)			

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DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	BDL	BDL	.020 <T	BDL	BDL	.040 <T
FEB	.090 <T	.100 <T	.230	.110 <T	.060 <T	BDL
MAR	BDL	BDL	BDL	IRE	BDL	BDL
APR	.060 <T	BDL	.090 <T	.070 <T	.060 <T	.060 <T
MAY	.080 <T	.060 <T	.100 <T	.050 <T	.150 <T	.080 <T
JUN	.050 <T	.070 <T	.070 <T	.060 <T	.060 <T	.040 <T
JUL	.100 <T	.100 <T	.110 <T	.140 <T	.100 <T	.070 <T
AUG	BDL	BDL	.	.	BDL	BDL
SEP	BDL	BDL	BDL	BDL	.020 <T	.030 <T
OCT	BDL	BDL	.040 <T	BDL	.020 <T	.020 <T
NOV	BDL	.020 <T	BDL	BDL	BDL	.020 <T
DEC	BDL	BDL	BDL	BDL	BDL	BDL
URANIUM (UG/L)				DET'N LIMIT = .020	GUIDELINE = 100.(B1)	
JAN	.370	.330	.300	.280	.380	.430
FEB	.890	.870	.640	.720	.660	.610
MAR	.460	.440	.480	IRE	.460	.450
APR	.500	.440	.510	.520	.450	.500
MAY	.470	.490	.460	.450	.520	.470
JUN	.500	.470	.490	.500	.550	.530
JUL	.790	.690	.700	.580	.670	.720
AUG	.610	.510	.	.	.500	.510
SEP	.290	.250	.260	.240	.220	.190 <T
OCT	.340	.300	.300	.320	.330	.300
NOV	.290	.280	.260	.270	.280	.260
DEC	.320 <T	.310 <T	.270 <T	.250 <T	.310 <T	.290 <T
VANADIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
JAN	.430 <T	.510	.390 <T	.440 <T	.590	.400 <T
FEB	.350 <T	.440 <T	.540	.510	.600	.330 <T
MAR	.460 <T	.430 <T	.440 <T	IRE	.350 <T	.420 <T
APR	.290 <T	.510	.470 <T	.430 <T	.370 <T	.420 <T
MAY	.490 <T	.570	.680	.580	.580	.520
JUN	.420 <T	.460 <T	.520	.460 <T	.450 <T	.420 <T
JUL	.460 <T	.670	.640	.600	.630	.590
AUG	.530	.790	.	.	.640	.560
SEP	.500 <T	.570	.480 <T	.540	.530	.560
OCT	.370 <T	.390 <T	.450 <T	.390 <T	.410 <T	.380 <T
NOV	.320 <T	.440 <T	.540	.370 <T	.430 <T	.340 <T
DEC	.310 <T	.360 <T	.510	.360 <T	.350 <T	.290 <T
ZINC (UG/L)				DET'N LIMIT = .001	GUIDELINE = 5000. (A3)	
JAN	11.000	1.600	8.700	1.800	6.300	2.000
FEB	8.600	16.000	13.000	2.900	38.000	4.400
MAR	7.500	2.600	2.000	IRE	67.000	5.400
APR	5.700	2.500	7.600	1.700	240.000	2.900
MAY	6.600	1.700	10.000	2.500	63.000	2.900

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	6.500	2.000	11.000	2.400	110.000	5.800
JUL	5.880	1.730	10.780	2.000	55.100	3.520
AUG	6.500	1.000 <T	.	.	100.000	4.000
SEP	7.100	.920 <T	6.800	1.100	58.000	3.000
OCT	5.200	.960 <T	7.300	1.200	40.000	2.500
NOV	9.000	2.000	7.900	2.200	45.000	2.800
DEC	5.300	1.000 <T	12.000	1.600 <T	79.000	2.700

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHLOROAROMATICS						
HEXACHLOROETHANE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 1900 (D4)	
JAN	8.000 <T	BDL	.	BDL	.	BDL
FEB	BDL	!RO	.	BDL	.	4.000 <T
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	!LA	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	!SM
JUL	BDL	!LA	.	BDL	.	BDL
AUG	BDL	BDL	.	.	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB						
ALPHA BHC (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)	
JAN	BDL	BDL	.	2.000 <T	.	1.000 <T
FEB	BDL	BDL	.	1.000 <T	.	1.000 <T
MAR	2.000 <T	1.000 <T	.	2.000 <T	.	2.000 <T
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	ILA	.	BDL	.	BDL
JUN	1.000 <T	3.000 <T	.	1.000 <T	.	ISM
JUL	2.000 <T	ILA	.	3.000 <T	.	BDL
AUG	1.000 <T	2.000 <T	.	.	.	BDL
SEP	BDL	2.000 <T	.	BDL	.	1.000 <T
OCT	1.000 <T	2.000 <T	.	BDL	.	BDL
NOV	1.000 <T	1.000 <T	.	BDL	.	1.000 <T
DEC	BDL	1.000 <T	.	1.000 <T	.	1.000 <T
LINDANE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 4000 (A1)	
JAN	BDL	BDL	.	1.000 <T	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	ILA	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	ISM
JUL	BDL	ILA	.	BDL	.	BDL
AUG	BDL	BDL	.	.	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
ATRAZINE (NG/L)			DET'N LIMIT = 50.00		GUIDELINE = 60000 (B3)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	720.000	.	760.000
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	.	.	.
SEP	BDL	BDL	.	.	.	.
OCT	BDL	BDL	.	.	.	.
NOV	BDL	BDL	.	.	.	.
DEC	130.000 <T	110.000 <T	.	.	.	.
D-ETHYL ATRAZINE (NG/L)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	.	.	.
SEP	BDL	BDL	.	.	.	.
OCT	BDL	BDL	.	.	.	.
NOV	230.000 <T	BDL	.	.	.	.
DEC	BDL	BDL	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PHENOLICS (UG/L	PHENOLICS)		DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
JAN	2.000	2.000	.	.	.	.
FEB	2.000	1.200	.	.	.	.
MAR	1.600	1.600	.	.	.	.
APR	1.400	1.600	.	.	.	.
MAY	1.400	1.400	.	.	.	.
JUN	.600 <T	2.200	.	.	.	.
JUL	1.000	6.600	.	.	.	.
AUG	1.000 <T	1.000	.	.	.	.
SEP	2.800	1.200	.	.	.	.
OCT	.600 <T	13.000	.	.	.	.
NOV	1.000	.600 <T	.	.	.	.
DEC	.800 <T	.400 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES						
BENZENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 5.0 (B1)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	IU	.	BDL
AUG	BDL	BDL	.	.	.	BDL
SEP	BDL	BDL	.	IU	.	.050 <T
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
TOLUENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 24.0 (B4)	
JAN	BDL	BDL	.	.100 <T	.	BDL
FEB	BDL	BDL	.	.100 <T	.	.050 <T
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	.050 <T	.150 <T	.	IU	.	.200 <T
AUG	BDL	.100 <T	.	.	.	BDL
SEP	BDL	.100 <T	.	IU	.	.050 <T
OCT	BDL	.100 <T	.	.100 <T	.	BDL
NOV	BDL	BDL	.	.050 <T	.	BDL
DEC	BDL	.050 <T	.	BDL	.	BDL
ETHYLBENZENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 2.4 (B4)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	.100 <T	.	BDL
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	.050 <T	.	.050 <T	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	IU	.	BDL
AUG	BDL	BDL	.	.	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
STYRENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 46.5 (D2)	
JAN	BDL	BDL	.	.150 <T	.	.100 <T
FEB	BDL	BDL	.	.150 <T	.	.200 <T
MAR	.200 <T	BDL	.	.	.	.100 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	.100 <T	.350 <T	.	.500 UCS	.	.200 <T
MAY	.100 <T	.100 <T	.	.100 <T	.	BDL
JUN	BDL	.150 <T	.	.100 <T	.	.100 <T
JUL	.050 <T	.150 <T	.	IU	.	.250 <T
AUG	BDL	.100 <T	.	.	.	.100 <T
SEP	BDL	BDL	.	IU	.	.100 <T
OCT	BDL	.100 <T	.	.050 <T	.	.100 <T
NOV	BDL	BDL	.	.100 <T	.	.100 <T
DEC	BDL	BDL	.	.150 <T	.	.100 <T
CHLOROFORM (UG/L)				DET'N LIMIT = .100 GUIDELINE = 350 (A1+)		
JAN	BDL	27.000	.	11.400	.	13.300
FEB	BDL	19.400	.	10.700	.	12.800
MAR	.300 <T	15.300	.	.	.	10.200
APR	BDL	22.200	.	19.300	.	20.700
MAY	BDL	18.100	.	20.000	.	19.300
JUN	.300 <T	12.500	.	15.800	.	18.300
JUL	BDL	18.100	.	IU	.	16.600
AUG	BDL	16.800	.	.	.	15.600
SEP	.200 <T	12.000	.	IU	.	13.100
OCT	BDL	28.400	.	11.700	.	12.000
NOV	BDL	31.800	.	11.500	.	9.500
DEC	BDL	19.600	.	6.600	.	6.500
111, TRICHLOROETHANE (UG/L)				DET'N LIMIT = .020 GUIDELINE = 200 (D1)		
JAN	BDL	BDL	.	BDL	.	BDL
FEB	.060 <T	BDL	.	.020 <T	.	.060 <T
MAR	.040 <T	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	IU	.	BDL
AUG	BDL	BDL	.	.	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	.060 <T
DEC	BDL	.020 <T	.	BDL	.	BDL
DICHLOROBROMOMETHANE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 350 (A1+)		
JAN	BDL	15.100	.	9.450	.	10.350
FEB	BDL	13.050	.	9.250	.	9.950
MAR	BDL	10.650	.	.	.	7.550
APR	BDL	11.200	.	10.500	.	10.100
MAY	BDL	9.650	.	10.850	.	10.200
JUN	BDL	7.150	.	8.900	.	10.250
JUL	BDL	11.100	.	IU	.	9.650
AUG	BDL	11.100	.	.	.	9.350

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	.100 <T	8.900	.	IU	.	8.900
OCT	BDL	13.100	.	8.000	.	8.650
NOV	BDL	13.250	.	8.250	.	7.250
DEC	BDL	12.700	.	6.300	.	5.800
CHLORODIBROMOMETHANE (UG/L)				DET'N LIMIT = .100 GUIDELINE = 350 (A1+)		
JAN	BDL	5.000	.	4.300	.	4.200
FEB	BDL	4.900	.	4.100	.	4.200
MAR	BDL	4.700	.	.	.	3.600
APR	BDL	3.400	.	3.600	.	3.000
MAY	BDL	2.900	.	3.800	.	3.300
JUN	BDL	3.000	.	3.800	.	4.600
JUL	BDL	5.900	.	IU	.	5.000
AUG	BDL	5.800	.	.	.	4.700
SEP	BDL	5.000	.	IU	.	4.500
OCT	BDL	5.900	.	4.900	.	4.400
NOV	BDL	5.000	.	4.300	.	3.700
DEC	BDL	4.400	.	2.700	.	2.300
T-CHLOROETHYLENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 10.0 (C2)		
JAN	BDL	BDL	.	.050 <T	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	.	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	IU	.	BDL
AUG	BDL	BDL	.	.	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
BROMOFORM (UG/L)				DET'N LIMIT = .200 GUIDELINE = 350 (A1+)		
JAN	BDL	.400 <T	.	.600 <T	.	.400 <T
FEB	BDL	.400 <T	.	.400 <T	.	.400 <T
MAR	BDL	.400 <T	.	.	.	.400 <T
APR	BDL	.200 <T	.	.600 <T	.	.200 <T
MAY	BDL	.200 <T	.	.400 <T	.	.400 <T
JUN	BDL	.200 <T	.	.400 <T	.	.600 <T
JUL	BDL	.800 <T	.	IU	.	.800 <T
AUG	BDL	.600 <T	.	.	.	.600 <T
SEP	BDL	.800 <T	.	IU	.	.600 <T
OCT	BDL	.800 <T	.	.800 <T	.	.600 <T
NOV	BDL	.400 <T	.	.400 <T	.	.400 <T
DEC	BDL	.600 <T	.	.400 <T	.	.400 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM ST CATHARINES (DE CEW WSS) 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
TOTL TRIHALOMETHANES (UG/L)				DET'N LIMIT = .500	GUIDELINE = 350 (A1)	
JAN	BDL	47.500	.	25.750	.	28.250
FEB	BDL	37.750	.	24.450	.	27.350
MAR	BDL	31.050	.	.	.	21.750
APR	BDL	37.000	.	34.000	.	33.800
MAY	BDL	30.850	.	35.050	.	33.200
JUN	BDL	22.850	.	28.900	.	33.750
JUL	BDL	35.900	.	IU	.	32.050
AUG	BDL	34.300	.	.	.	30.250
SEP	BDL	26.700	.	IU	.	23.100
OCT	BDL	48.200	.	25.400	.	26.650
NOV	BDL	50.450	.	24.450	.	20.850
DEC	BDL	37.300	.	16.150	.	15.000

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML(A1)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL(A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	2000. (B4)
PENTACHLOROPHENOL	NG/L	50.	30000. (B4)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5(A4)
FIELD TEMPERATURE	^{o}C	N/A	<15 ^{o}C(A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500(A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20(A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100(A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
SULPHATE	MG/L	.200	500. (A3)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
PESTICIDES & PCB			
ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000.	(A1)
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A	
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A	
BENZO(B)CHRYSENE	NG/L	2.0	N/A	
CORONENE	NG/L	10.0	N/A	
SPECIFIC PESTICIDES				
TOXAPHENE	NG/L	N/A	5000.	(A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000.	(B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000.	(A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000.	(B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A	
DICAMBA	NG/L	100.	120000.	(B1)
PICLORAM	NG/L	100.	190000.	(B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000.	(A1)
DIAZINON	NG/L	20.	20000.	(B1)
DICHLOROVOS	NG/L	20.	N/A	
DURSBAN	NG/L	20.	N/A	
ETHION	NG/L	20.	35000.	(G)
GUTHION(AZINPHOSMETHYL)	NG/L	N/A	20000.	(B1)
MALATHION	NG/L	20.	190000.	(B1)
MEVINPHOS	NG/L	20.	N/A	
METHYL PARATHION	NG/L	50.	7000.	(A1)
METHYLTRITHION	NG/L	20.	N/A	

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
PARATHION	NG/L	20.	50000.	(B1)
PHORATE (THIMET)	NG/L	20.	2000.	(B3)
RELDAN	NG/L	20.	N/A	
RONNEL	NG/L	20.	N/A	
AMINOCARB	NG/L	N/A	N/A	
BENONYL	NG/L	N/A	N/A	
BUX (METALKAMATE)	NG/L	2000.	N/A	
CARBOFURAN	NG/L	2000.	90000.	(B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000.	(G)
DIALLATE	NG/L	2000.	30000.	(H)
EPTAM	NG/L	2000.	N/A	
IPC	NG/L	2000.	N/A	
PROPOXUR (BAYGON)	NG/L	2000.	90000.	(G)
SEVIN (CARBARYL)	NG/L	200.	90000.	(B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000.	(D3)
VOLATILES				
BENZENE	UG/L	.050	5.0	(B1)
TOLUENE	UG/L	.050	24.0	(B4)
ETHYLBENZENE	UG/L	.050	2.4	(B4)
PARA-XYLENE	UG/L	.100	300.	(B4)
META-XYLENE	UG/L	.100	300.	(B4)
ORTHO-XYLENE	UG/L	.050	300.	(B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0	(D1)
ETHLYENE DIBROMIDE	UG/L	.05	.05	G)
METHYLENE CHLORIDE	UG/L	.500	50.	(B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70.	(D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A	
CHLOROFORM	UG/L	.100	350.	(A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200.	(D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0	(D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0	(B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0	(D5)
TRICHLOROETHYLENE	UG/L	.100	50.	(B1)
DICHLOROBROMOMETHANE	UG/L	.050	350.	(A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60	(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350.	(A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0	(C2)
BROMOFORM	UG/L	.200	350.	(A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17	(D4)
CHLOROBENZENE	UG/L	.100	60.	(D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0	(B4)
1,3-DICHLOROBENZENE	UG/L	.100	130.	(G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0	(B4)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A	
TOTAL TRIHALOMETHANES	UG/L	.500	350.	(A1)
STYRENE	UG/L	.05	140.	(D5)